

Journal of Endodontics, 1996, Vol. 22

DECEMBER

**Col. Schindler, Chairman Of Endodontics
59th MDW Dental Directorate
Lackland AFB, TX**

Articles:

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DECEMBER (Cont.)

**Col. Schindler, Chairman Of Endodontics
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- **Torsional Testing of the Lightspeed Nickel-Titanium Instrument System**
- **Effects of four instrumentation techniques on curved canals: a comparison study**
- **One-Step Apexification without Calcium Hydroxide**
- **A new approach to the treatment of true-combined endodontic-periodontic lesions by the guided tissue regeneration technique**
- **Burkitt's Lymphoma Mimicking an Acute Dentoalveolar Abscess**
- **Treatment of stripping perforations**
- **The Use of Tungsten Carbide Needle Holders to Remove Intracanal Objects**

Immunohistochemical Detection of Prostaglandins E₂, F_{2α} and 6-Keto-prostaglandin F_{1α} in Experimentally Induced Periapical Inflammatory Lesions in Rats

Miyauchi M, Takata T, Ito H, Ikuko I, Kobayashi J, Nikai H, Ijuhin N. Immunohistochemical Detection of Prostaglandins E₂, F_{2α} and 6-Keto-prostaglandin F_{1α} in Experimentally Induced Periapical Inflammatory Lesions in Rats. J Endodon 1996;22:635-7.

Purpose: To examine the involvement of prostaglandins immunohistochemically in periapical lesions experimentally induced in rats.

M&M: 6 groups of 3 rats each had their max 1st molar pulps exposed for 3 and 5 days, and 1 - 4 weeks. After sacrifice, the molar regions were removed, prepared and immunohistochemically stained for PG's.

Results: At 3 d, suppurative inflammation was observed in the coronal pulp. At 2 w, most of the pulp was necrotic, with subsequent abscess formation and bone resorption. PGE₂, PGF_{2α}, and 6-keto-PGF_{1α} were seen in many large macrophages. These macrophages were usually located in the peripheral area of pool of necrotic PMNs. PDL fibroblasts were negative for PGs in most cases.

C&C: The results indicate that a main source of PG's in acute PA lesions is macrophages. Numerous osteoclasts were observed in these peripheral areas, indicating that PG produced by macrophages is responsible for osteoclastic bone resorption. If PG production could be predicted or controlled, then bone destruction may be lessened.

December 1996

Robin E. Hinrichs

A comparison of sealer placement techniques in curved canals

Hall MC, Clement DJ, Dove SB, Walker WA III. A comparison of sealer placement techniques in curved canals. J Endodon 1996;22;638-42.

PURPOSE: To compare three traditional methods of sealer placement in canals with slight-to-moderate canal curvature (15 to 36 degrees) prepared with Lightspeed nickel-titanium, engine driven instruments, and to examine dispersal of sealer after obturation with laterally condensed gutta-percha.

M&M: Forty-five extracted human single-rooted teeth were randomly divided into 3 groups of 15 teeth. Root canal preparations were made with Lightspeed nickel-titanium, engine-driven instruments to a minimum apical preparation of 42.5 master apical rotary (MAR). AH26 sealer mixed with carbon black powder (to darken for visibility after clearing the sections) was applied with either K-file, lentulo spiral, or master gutta-percha cone. Radiographs were taken in clinical and proximal views after sealer placement and analyzed for amount of canal sealer fill. The teeth were then obturated with laterally condensed gutta-percha, chemically cleared, photographed, and analyzed for total canal wall sealer coverage.

RESULTS: Statistical analysis of radiographs of sealer placement before obturation with gutta-percha showed a difference in canal sealer fill of the apical 10 mm between all three groups. K-file placement (group A) had a mean canal sealer fill of 76.4%, lentulo placement (group B) had a mean canal fill of 90.2%, and master gutta-percha cone placement (group C) had a mean of 56.4% canal fill. Analysis of the apical 10 mm of the cleared specimens from the color slides showed no statistically significant difference in sealer wall coverage among the three groups after obturation: group A had a mean of 57.7% sealer wall coverage, group B had 62.5% coverage, and group C had 55.5% coverage.

C&C: The results suggest that complete wall coverage after obturation may not be possible. It is known that heating AH26 increases its flow properties. It is possible that use of the lentulo may have increased the temperature of the sealer, thus increasing its flow properties, which might account for the initial improved canal wall coverage.

December 1996

Orest M. Harkacz, Sr.

Removal of Smear Layer in the Root Canal Using Oxidative Potential Water

Hata G, Uemura M, Weine FS, Toda T. Removal of Smear Layer in the Root Canal Using Oxidative Potential Water. J Endodon 1996;22:643-5.

Purpose: To evaluate Oxidative Potential Water (OPW) as an irrigant for effectiveness in removing the smear layer.

M&M: 6 groups of decoronated single-rooted teeth were prepared to MAF size 45 - 60. 3 large groups were irrigated with OPW, 5% NaOCl, or 17% EDTA during instrumentation. After instrumentation, half of each group was irrigated with OPW or distilled water (DW). Irrigation was either by hand or ultrasound for 1 min.

Results: Specimens irrigated with OPW during instrumentation showed no smear layer. Specimens irrigated with NaOCl during instrumentation and OPW after showed a superficial smear layer present in some areas. OPW irrigation with ultrasound after instrumentation with NaOCl resulted in an amorphous smear layer throughout. Groups using EDTA and OPW had the smear layer removed.

C&C: OPW has antibacterial and antiviral properties, a low pH (2.7 or less), and oxidation-reduction potentials. The authors believe that it may be advantageous in dental treatment due to the absence of any toxicity and irritability to oral tissues. Cost of the solution was not mentioned. The material has potential, but seems to lack any tissue dissolution properties.

December 1996

Robin E. Hinrichs

Measurement algorithm accuracy of the RVG-PCi in vertical and diagonal assessments at various beam energies

Garlock JA, Scarfe WC, Kamer KR, Farman AG. Measurement algorithm accuracy of the RVG-PCi in vertical and diagonal assessments at various beam energies. J Endodon 1996;22:646-50.

PURPOSE: To compare Trophy RVG-PCi accuracy to Kodak E-speed film in file length determination with known variations in kVp and instrument orientation.

M&M: A test object was fabricated incorporating two size 15 files fixed to a plastic support and oriented at 45° to one another, one being vertical and the other diagonal. A tissue equivalent absorber was fabricated from Concise. True file lengths were determined and recorded. Images were then recorded with the RVG-PCi and Ektaspeed Plus film using a GE 100 x-ray generator operating at 10 mA with kVp settings varied at 50, 70 and 75. Five exposures were made at each kVp. Eight observers viewed the film radiographs and digital images, and estimated file lengths using the proprietary software measurement algorithm for the RVG-PCi and a millimeter rule for the film-based radiographs.

RESULTS: Both modalities resulted in slight magnification for vertically oriented files; however, the RVG-PCi caused overestimation in the order of 6 to 8% with diagonally oriented instruments. For all kVp and exposures, film measurements displayed greater interrater variability and less reliability for both vertical and diagonal measurements. At 75 kVp and higher exposures, RVG-PCi recordings deviated more due to image burnout.

C&C: It was concluded that the proprietary software supplied with the RVG-PCi was not sufficiently accurate for endodontic assessment, particularly with diagonally placed objects. Exposures above 0.15 s at 75 kVp resulted in pixel saturation resulting in apparent shortening of the instrument; hence, length calculations were particularly sensitive to overexposure when using the RVG-PCi. Less interrater reliability with film than the RVG-PCi was to be expected because of different methods of measurement.

December 1996

Orest M. Harkacz, Sr.

Measurement of the Cutting Efficiency of Endodontic Instruments: A New Concept

Haikel Y, Serfaty R, Lwin TC, Allerman C. Measurement of the Cutting Efficiency of Endodontic Instruments: A New Concept. J Endodon 1996;22:651-6.

Purpose: To measure the cutting efficiency of endodontic instruments using an original experimental technique that simulates clinical conditions.

M&M: The cutting efficiency of #30 instruments was assessed by cutting 2 Plexiglas slabs placed at a 2% taper so that the entire cutting edge was in contact with the surface. K-reamers, Flexofiles, Helifile, K-flex, and Unifile were chosen. A simulated clinical motion of quarter turn rotary motion followed by a pull action was employed, using a fixed load and irrigation of 85 ml/s. Each instrument was tested 4 times. A mean efficiency of cutting and an average loss of efficiency between the 1st and 4th test was calculated for each file group.

Results: The Unifile had the greatest cutting efficiency, followed by the Flexofile, K-flex, Helifile and K-reamer. The K-reamer had the highest loss of efficiency, followed by the K-flex. The Unifile had no loss of cutting efficiency.

C&C: The Unifile has an s-shaped cross-section with 2 double-helix spiraled cutting edges. The Flexofile, with three cutting edges had the 2nd highest cutting efficiency - it has more flutes/mm than the K-reamer, so is more efficient. The Helifile, although it has 3 cutting edges, has them placed far from the axis of force application and has a thin central shaft. This study is interesting in that it shows how minute details in the design process can effect the files characteristics. The experimental design probably helped all the instruments in maintaining constant contact with the surface being cut.

December 1996

Robin E. Hinrichs

Effects of cleaning, disinfection, and sterilization procedures on the cutting efficiency of endodontic files

Haikel Y, Serfaty R, Bleicher P, Lwin TC, Allemann C. Effects of cleaning, disinfection, and sterilization procedures on the cutting efficiency of endodontic files. J Endodon 1996;22:657-61.

PURPOSE: To evaluate the effects of cleaning, disinfection, and sterilization on the cutting efficiency of three file designs (Unveil, Flexofile, and H-file).

M&M: Cutting efficiency measurements were made using an experimental device described in another study. The effects of various cleaning, chemical disinfection, and sterilization procedures on cutting efficiency of the #30 Unveil, Flexofile, and H-file were investigated. Thirty-nine groups of 10 files were used. The cross-infection control treatment procedures investigated were as follows: chemical disinfection - NaOCl (2.5%) for 12 and 48 h, and NH₄ (5%) for 1 and 4 h; ultrasonic cleaning for 4 and 16 cycles of 15 min; and sterilization methods with chemiclave for 5 and 10 cycles of 20 min, Poupinel (dry heat) for 5 and 10 cycles of 120 min at 180°C and glass beads for 10 and 40 cycles of 40 at 250°C.

RESULTS: The control groups were designated as having 100% cutting efficiency, and the remaining groups' cutting efficiency was evaluated relative to the control groups for each design of files. For Unifiles, chemical disinfection treatment with NaOCl caused the greatest reduction in cutting efficiency of 64 to 70%. Poupinel sterilization methods did not cause a reduction in cutting efficiency. Bead sterilization caused the lowest cutting efficiency reduction of 5 to 14%, followed by ultrasonic cleaning of 62%, then chemical disinfection with NH₄ and Chemiclave of 64 to 67%. For the Flexofiles, Chemiclave sterilization caused the greatest reduction in cutting efficiency of 73 to 77%. Poupinel sterilization caused the lowest cutting efficiency loss of 1 to 12%, followed by NaOCl disinfection of 58 to 68%, then ultrasonic cleaning of 66 to 67%, then bead sterilization of 67%, and NH₄ chemical disinfection of 68%. For H-files, the greatest reduction occurred with glass bead sterilization decreasing cutting efficiency by 76%, followed by Chemiclave sterilization and ultrasonic cleaning by 68%, then NaOCl by 66%. Poupinel decreased cutting efficiency by 54% and NH₄ by 50%.

C&C: Based on the results, the most appropriate sterilization treatment technique for Unveil and Flexofile is heat sterilization. No technique could be recommended for H-files, as the best technique still reduced cutting efficiency by 50%.

December 1996

Orest M. Harkacz, Sr.

Treatment of Root Fracture by CO₂ and Nd:YAG Lasers: An in Vitro Study

Arakawa S, Cobb CM, Rapley JW, Killoy WJ, Spencer P. Treatment of Root Fracture by CO₂ and Nd:YAG Lasers: An in Vitro Study. J Endodon 1996;22:662-7.

Purpose: To evaluate the feasibility of using CO₂ and Nd:YAG lasers to repair fractured roots.

M&M: 81 single-rooted teeth were split by cutting through 1 side of the root, and breaking apart the other side. The split roots were repositioned and fixed in stone with the fx exposed, or clamped together. Nd:YAG laser was applied at 10,12, and 14 W, or CO₂ laser was applied at 3,6, or 8 W. Energy densities for the Nd:YAG ranged from 206 - 344 J/cm², and for the CO₂ laser from 1429 - 200 J/cm². Each tooth received 3 - 5 passes over the fracture. Fractures were evaluated via SEM observation.

Results: In all cases, the fracture line widened after tx with the lasers. No fusion was accomplished. Cemental crazing, and separation of cementum from the dentin were observed.

C&C: The authors mention that in order to induce even slight melting of the mineral phase, energy densities would be so high that pulpal damage would occur.

December 1996

Robin E. Hinrichs

Effects of a combination of an antibacterial agent (ofloxacin) and a collagenase inhibitor (FN-439) on the healing of rat periapical lesions

Anan H, Matsumoto A, Hamachi T, Yoshimine Y, Morita Y, Maeda K. Effects of a combination of an antibacterial agent (ofloxacin) and a collagenase inhibitor (FN-439) on the healing of rat periapical lesions. J Endodon 1996;22:668-73.

PURPOSE: To investigate the effects of a combination of ofloxacin and FN-439 (a collagenase inhibitor) in root canal treatment after experimentally inducing periapical lesions in rats, by comparing the effects obtained with those obtained when using other intracanal medicaments.

M&M: Experimental apical periodontitis was produced in 32 first molars of rats. The teeth were randomly divided into four groups for root canal treatment using intracanal medicaments 14 days after the pulpectomy. The intracanal medicaments consisted of physiological saline, formocresol, 0.3% ofloxacin, and a combination of 0.3% ofloxacin and 2% FN-439. The animals were sacrificed 7 days after root canal treatment, and prepared for light microscopic observations, enzyme activity and immunohistochemical reaction analysis.

RESULTS: There were no differences in the area of the periapical lesions between the saline and formocresol treated rats. The area of the lesion in the ofloxacin and ofloxacin with FN-439 was significantly reduced when compared with the saline or formocresol treated rats (no difference was noted between the latter 2 groups). With a topical application of a combination of ofloxacin and FN-439 following experimentally induced periapical lesions, both neutrophils and macrophages became significantly decreased in number, while active cementogenesis and extensive bone formation were seen in the periapical region. The use of ofloxacin alone demonstrated a beneficial effect on periapical inflammation and healing. The only observed effect of a combination of ofloxacin and FN-439 is that it may more effectively inhibit osteoclastic bone resorption and activate the remodeling of the apical periodontal tissue if this combined medicament is used in a stage of active bone destruction characterized by high production of tissue collagenase.

C&C: Ofloxacin is a new fluoroquinolone antimicrobial agent that can kill both gram-positive and anaerobic bacteria. However, there have been no reports demonstrating that ofloxacin inhibits tissue collagenolytic enzyme activity by a mechanism unrelated to its antibacterial efficacy.

December 1996

Orest M. Harkacz, Sr.

Disinfection by Calcium Hydroxide Pastes of Dentinal Tubules Infected with Two Obligate and One Facultative Anaerobic Bacteria

Siqueira JF Jr., Uzeda M. Disinfection by Calcium Hydroxide Pastes of Dentinal Tubules Infected with Two Obligate and One Facultative Anaerobic Bacteria. J Endodon 1996;22:674-6.

Purpose: To compare the antibacterial effects of calcium hydroxide in saline or in CPMC on dentinal tubules infected with bacteria.

M&M: 4 mm root cylinders of bovine dentin were prepared. Cementum and smear layers were removed and the specimens were sterilized before contamination with *Actinomyces israelii*, *Fusobacterium nucleatum*, and *Enterococcus faecalis*. After incubation, the specimens were rinsed to remove excess broth and submerged in plates containing calcium hydroxide/saline paste, calcium hydroxide /CPMC paste, and saline. After 1 h, 1 d and 1 w, specimens were evaluated and plated out.

Results: All control groups in saline yielded positive cultures. In CaOH/CPMC specimens, 1 h exposure killed as bacteria in tubules except *E.faecalis*, which required 1d. CaOH/saline was ineffective in removing *E.faecalis* and *F nucleatum* even after 1w, but eliminated *A. israelii* after 1 d.

C&C: No real surprises here. CPMC has a known higher antibacterial activity than calcium hydroxide. The authors are attempting to take advantage of this while reducing it's toxic effects by combining it with calcium hydroxide.

December 1996

Robin E. Hinrichs

Relationship between prostaglandin E₂ concentrations in periapical exudates from root canals and clinical finding of periapical periodontitis

Takayama S, Miki Y, Shimauchi H, Okada H. Relationship between prostaglandin E₂ concentrations in periapical exudates from root canals and clinical finding of periapical periodontitis. J Endodon 1996;22:677-80.

PURPOSE: To measure PGE₂ concentrations in periapical exudates and discuss the association of this mediator with clinical findings of human periapical periodontitis.

M&M: Samples of periapical exudates were obtained from root canals of 77 teeth with or without radiolucent areas around the periapex using paper points inserted to established working lengths and held for 30 s, then placed in microfuge tubes with phosphate-buffered saline. The tubes were centrifuged and the supernatant collected for assay. PGE₂ concentrations in the collected supernatants were determined by radioimmunoassay.

RESULTS: The mean values of periapical exudates PGE₂ (PE-PGE₂) from the 63 involved teeth with a radiolucent area was 236.8 ± 521.3 pg/ μ l, which was significantly higher than that from 14 teeth without radiolucent areas (mean 14.9 ± 23.1 pg/ μ l). The elevated PE-PGE₂ levels were associated with the presence of clinical symptoms that reflected an acute inflammation in the periapical lesion (spontaneous pain and painful sensitivity to percussion). The 63 teeth with apical lesions were further subdivided into three groups by the size of the apical lesions (the long axis of the radiolucent areas being shorter than 1 cm, 1 to 1.5 cm, or longer than 1.5 cm) and examined regarding the relationships to PE-PGE₂. A significantly negative association of decreased PE-PGE₂ levels with increasing size of the radiolucent area was demonstrated.

C&C: According to the authors, these results suggest that PGE₂ was produced locally in periapical lesions and that the PGE₂ concentration in periapical exudate could reflect the state of the disease activity in periapical periodontitis. The negative association of decreased PE-PGE₂ concentration with increased size of radiolucent area was felt to be due to either a downregulation of PGE₂ synthesis after the initial development of the lesion, or a dilution effect of secreted PGE₂ by the increasing amounts of periapical fluids in the expanded apical lesions.

December 1996

Orest M. Harkacz, Sr.

Torsional Testing of the Lightspeed Nickel-Titanium Instrument System

Marsicovetere ES, Burgess JO, Clement DJ, del Rio CE. Torsional Testing of the Lightspeed Nickel-Titanium Instrument System. J Endodon 1996;22:681-4.

Purpose: To test LightSpeed instruments for number of revolutions to separation, maximum torque at failure, and distance that the instrument separated from its tip.

M&M: 12 instruments of each size 20 - 80 were tested. Each instrument was placed in an Instron using a torsion cell. The tip was grasped and held by the head, (and?) 2 mm from the end of the shaft in 2 pin vises. The Instron was activated at 20 mm/min clockwise, and the # of revolutions to failure and maximum torque at failure was recorded. Also, the head segment length was recorded.

Results: # Revolutions to failure: Mean number ranged from 1.77 - 4.75. No correlation's existed between this aspect and instrument size or shaft diameter. Max. torque at failure: 4 groups could be discerned. Size 20 - 27.5 ranged from 20 - 36.25 g/cm. Size 30 - 45 ranged from 42.92 - 55.83 g/cm. 47.5 and 50 were 62.5 and 67.92 respectively. Instruments size 55 and up ranged from 97.92 to 427.92. All instruments separated at mean distance of 2.32 ± 0.60 mm from the tip. Fracture characteristics were a combination of brittle fracture on the periphery and a ductile fracture in the center of the shaft.

C&C: This study compares their data to the ANSI specifications for K-files and reamers. This illustrates the need for a separate specification category for these new engine-driven instruments, as the current one does not seem to be applicable. This study also highlights the fact that the larger size LightSpeed's have a much lower torque at failure in sizes above 30 than the current ANSI specification for files and reamers of this size. This indicates that the flexibility of the LightSpeed's in the larger sizes is not as beneficial.

December 1996

Robin E. Hinrichs

Effects of four instrumentation techniques on curved canals: a comparison study

Schäfer E. Effects of four instrumentation techniques on curved canals: a comparison study. J Endodon 1996;22:685-9.

PURPOSE: To compare the ability of four different instrumentation techniques (all based on a rotary motion) and three different root canal instruments with noncutting tips to maintain the original canal shape and curvature during enlargement.

M&M: Standardized canals (42° curvature with a radius of 5.5 mm) in clear polyester resin blocks were instrumented from size #15 to #35 by four different instrumentation techniques using a computer driven testing device. The instrumentation techniques evaluated included the Senia-Willey instrumentation technique, the “balanced force” technique, the “step back” technique, and a technique combining a reaming motion and the “balanced force” technique. The following root canal instruments with modified noncutting tips were used: Flexoreamer Batt-tip, Flex-R file, and K-Flexofile Batt-tip. Preoperative and postoperative photographs of the simulated canals were used to assess changes in canal shape as measured at 14 points.

RESULTS: Independent of the technique used, all of the three instruments removed material on the whole length of the outer side of the 42° curved canal. The material removed on the inner side depended highly on the type on instrument and instrumentation technique used. Changes in shape differed significantly between the three instruments and between the four techniques in all of the 14 measuring points. Best results were obtained when the curved canals were first enlarged with Flexoreamer Batt-tip or Flex-R file #15 and #20 using a reaming motion followed by #25 to #35 instruments using the “balanced force” technique.

C&C: All of the instrumentation techniques, with the exception of the “step back” technique, were associated with a loss of working length. Irrigant was not utilized in this study. Loading of the flutes with debris could effect the mechanics and cutting efficiency of the instrument. No mention was made as to whether the flutes were cleaned of debris between instrumentation cycles or not.

December 1996

Orest M. Harkacz, Sr.

One-Step Apexification without Calcium Hydroxide

Harbert H. One-Step Apexification without Calcium Hydroxide. J Endodon 1996;22:690-2.

Purpose: To present one case of artificial barrier formation with tricalcium phosphate (TCP) with a 7 year follow-up.

Summary: A 7 yo presented with a complicated crown fracture #8 1 d post trauma. Due to logistics, the decision was made to do complete RCT. The canal was cleaned, dried and sealed with Cavit. 5 w later, she returned asymptomatic with a sinus tract and mild swelling labial to #8. The tooth was again biomechanically cleaned and dried. Persistent PA drainage was noted. TCP was placed in the canal to plug the apex and the canal was obturated with GP. The sinus tract healed w/in 2 w. A 7 y recall, the tooth showed a calcified dome, with continued periapical development. The author notes that TCP may result in a lesser reaction due to its pH of 7.

C&C: A nice case. One option apparently not considered was a Cvek pulpotomy, which at 1 day post trauma was a legitimate option. The continued development of the root is due to the presence of Hertwigs Epithelial Root Sheath.

December 1996

Robin E. Hinrichs

A new approach to the treatment of true-combined endodontic-periodontic lesions by the guided tissue regeneration technique

Tseng C, Harn W, Chen YM, Huang D, Yuan K, Huang P. A new approach to the treatment of true-combined endodontic-periodontic lesions by the guided tissue regeneration technique. J Endodon 1996;22:693-6.

SUMMARY: A 34-yr-old male on clinical examination was diagnosed with an endo-perio combined lesion on a maxillary premolar (11 mm probing depth, grade II mobility). Conventional root canal treatment was completed first. A mucoperiosteal flap was reflected, revealing osseous destruction on the facial surface of tooth 12. Scaling, root planing and apical curettage were performed. The bony defect was filled with a decalcified freeze-dried bone allograft mixed with tetracycline powder at a proportion of 4:1. A Gore-Tex membrane was used to cover the bone material and the flap was sutured over the membrane. After 4 weeks, the membrane was removed. The patient was recalled every 3 months, and after 18 months the probing depth was 2 mm with a grade I mobility of the tooth.

C&C: The role of the DFDBA in this case was for space-making and also for inducing bone formation. No histology was performed, therefore it is unknown if true regeneration occurred or if repair was the result.

December 1996

Orest M. Harkacz, Sr.

Burkitt's Lymphoma Mimicking an Acute Dentoalveolar Abscess

Ardekian L, Peleg M, Samet N, Givol N, Taicher S. Burkitt's Lymphoma Mimicking an Acute Dentoalveolar Abscess. J Endodon 1996;22:697-8.

Purpose: To report a case of Burkitt's Lymphoma (BL) involving the mandible which was misdiagnosed as acute alveolar abscess.

Summary: A 16 yo wm was referred to the oral and maxillofacial clinic because of swelling in the left man. vestibule. A poorly obturated RC had been accomplished 2 w earlier. No description of symptoms was given other than continued pain and swelling. The tooth was sensitive to percussion. Radiographically, there was a diffuse RL lesion w/ poorly defined borders. The d root seems to have been resorbed. The gingiva Y vestibule showed swelling. Biopsy upon extraction of the tooth revealed Burkitts lymphoma. A discussion of BL mentions that early jaw involvement and diagnosis improve the survival rate. Tooth pain, facial swelling, alveolar and gingival expansion, and paresthesia are common symptoms when BL involves the jaw. In this case, the 1st dentist prescribed antibiotics, which did not improve the situation. The referral to an oral surgeon at this point was proper.

December 1996

Robin E. Hinrichs

Treatment of stripping perforations

Allam CR. Treatment of stripping perforations. J Endodon 1996;22:699-702.

SUMMARY: The article discusses the treatment of strip perforations utilizing a two-step technique: an endodontic phase in which the root canal system is sealed with gutta-percha overflowing through the stripped perforation, and a surgical step in which bony access to the overfill is attained and excess gutta-percha is taken out using a hot spatula followed by cold burnishing. Two cases are presented of bone regeneration in the site of perforation. Treatment of strip perforations differ from that of simple lateral perforations. A lateral root perforation has thick edges, allowing it to be sealed by a repair of its defect that is placed surgically. The presence of thick walls is enough to create retention for the obturating material. Strippings are larger and wider oval cavities with thin walls. Creating a retentive cavity with thick walls on a stripping would lead to enlarging the perforation and almost completely destroying the root walls.

December 1996

Orest M. Harkacz, Sr.

The Use of Tungsten Carbide Needle Holders to Remove Intracanal Objects

Kleier DJ, Mendoza M. The Use of Tungsten Carbide Needle Holders to Remove Intracanal Objects. J Endodon 1996;22:703-5.

Summary: Needle holders with a cross-hatch pattern or with ground pyramidal profiles in the end were demonstrated removing silver points when hemostats were unable to maintain a grip on the point or post. Tungsten carbide needle holders were used as endodontic forceps to provide a more positive, high friction grip. The importance of using solvents and ultrasonics before attempting removal was emphasized to reduce the possibility of breaking off the object to be removed. A nice addition to our arsenal.

December 1996

Robin E. Hinrichs